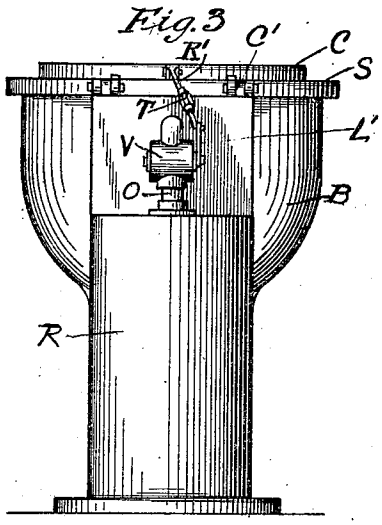
F. C. ROOD.

FLUSHING TANK.

APPLICATION FILED DEC. 30, 1918.

1,426,509. Patented Aug. 22, 1922.

2 SHEETS—SHEET 1.



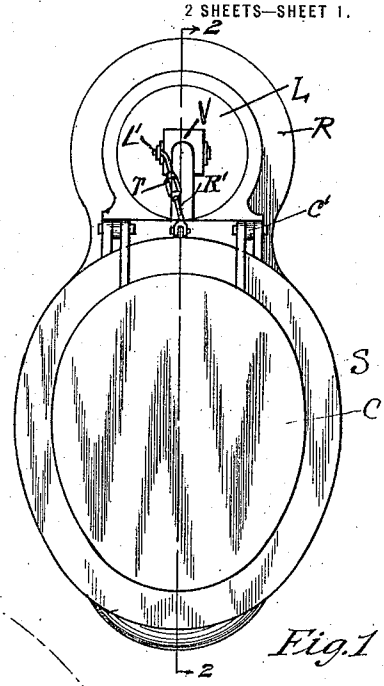




Fig. 1

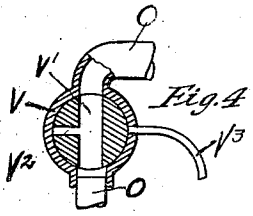



Fig. 4

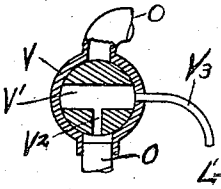



Fig. 5




Fig. 2

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2 SHEETS—SHEET 2.

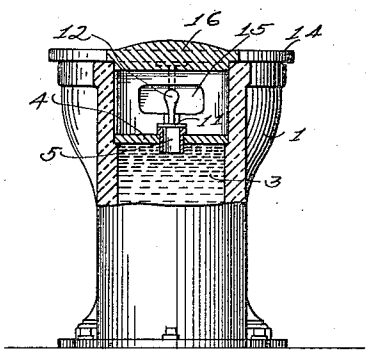



Fig. 8

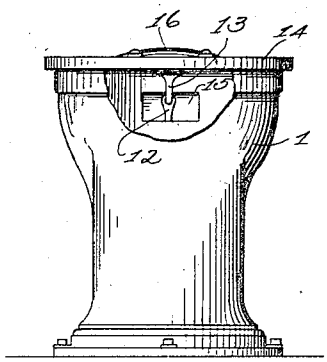



Fig. 9

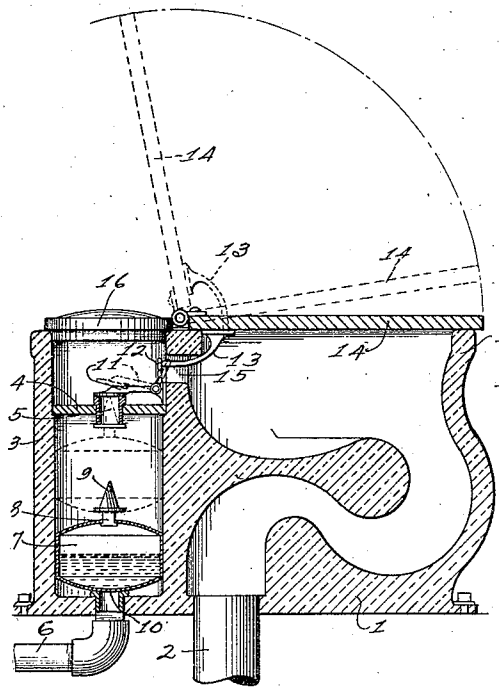



Fig. 7

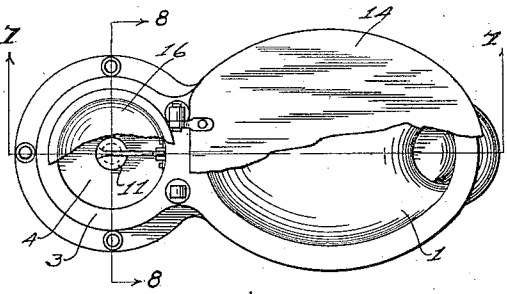



Fig. 6

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# UNITED STATES PATENT OFFICE.

FLETCHER C. ROOD, OF WALLA WALLA, WASHINGTON.

## FLUSHING TANK.

1,426,509. Specification of Letters Patent. Patented Aug. 22, 1922.

Application filed December 30, 1918. Serial No. 268,892.

*To all whom it may concern:*

Be it known that I, FLETCHER C. ROOD, a citizen of the United States, residing in the city of Walla Walla, county of Walla Walla, and State of Washington, have invented certain new and useful Improvements in Flushing Tanks, of which the following is a specification.

My invention relates to flushing tanks, and has for its object to provide a flushing tank and operating mechanism therefor whereby a more quiet flushing of the bowl is possible.

I accomplish this by providing a tank or reservoir between the supply of water and the discharge to the bowl, whereby the force of the water pressure from the main supply is utilized in flushing the bowl, instead of placing the reservoir above the bowl and using a gravity feed which makes the noise objected to. This noise is not only caused by the falling of the water, but the refilling of the tank usually causes more or less noise. In my improved device, the reservoir or tank of flushing water is located back of the bowl and below the top thereof, the general water supply being connected into the bottom or at the lower end thereof, while the discharge therefrom is from the upper end into the bowl to be flushed. A valve mechanism is provided for automatically controlling the same. My improved arrangement makes it possible to place the stool in the middle of the floor, or removed from a wall, if desired, it not being necessary to use the wall of the room as a supporting means for any part of my device.

In order to more clearly explain my invention, I have illustrated the same on the accompanying drawings, in which,—

Figure 1 is a top plan view of a toilet stool in which my invention is embodied;

Figure 2 is a vertical sectional view through the same, taken on line 2—2, of Fig. 1;

Figure 3 is a rear view of the device;

Figures 4 and 5 are sectional views of the controlling valve;

Figure 6 is a top plan view, with part of cover broken away, of a modified embodiment of the invention;

Figure 7 is a vertical sectional view thereof, on line 7—7, of Fig. 6;

Figure 8 is an end elevation, partly in vertical section on line 8—8, of Fig. 6; and

Figure 9 is a front elevation with a part of the front broken away.

Referring now more in detail to the drawings, Figures 1 to 5, inclusive, my invention as here embodied comprises a bowl, B, with a tank or reservoir, R, formed as a part thereof and in the rear thereof, substantially as shown. The discharge from the bowl, B, is by way of a pipe, P. A seat, S, and a cover, C, are provided, hinged to a common center, C′, as indicated, whereby one or both can be lifted at will. Connected to the lower end of the reservoir, R, is the main water supply, W, the inner end of the pipe being adapted to form a seat for a ball valve, B′, when the latter is down in the position indicated in dotted lines, Fig. 2. The reservoir R is provided with a cover or lid, L, through which is an outlet pipe, O, the inner end of which is also formed to be closed by the ball, B′, when the latter is in its raised position, as shown in full lines, Fig. 2. The opposite end of the pipe O, connects with the rear of the bowl, B, as at O′. Interposed in said pipe, O, is a valve, V, the valve member of which is provided with a main passageway V′ therethrough to be turned into registry with the pipe, O, as shown in Fig. 4, or to be turned to cut off the passageway through said pipe as indicated in Fig. 5. A vent opening $V^2$ is also provided in said valve member, and a vent tube, $V^3$ is connected from the valve body to the reservoir, as clearly indicated in Fig. 2. The valve body is shown in rear view in Fig. 3, and the valve member is provided with an operating lever, L′, connected by means of a rod, R′, with the cover C, to the bowl, said rod being provided with a turn buckle, T, whereby the length of said rod can be varied to regulate the movement of the valve member in order to get the best results according to the water pressure used. As shown in Fig. 2, the bowl is flushed when the cover, C, is down, the valve member being in the position indicated in Fig. 4. The flushing operation continues until the ball B′ is raised to the top of the reservoir and closes the outlet pipe O, as shown in full lines in Fig. 2, the ball being raised and held in this position by the inrushing water from the supply pipe, W. The ball valve B′ is of such weight that inflowing water will lift it to the position shown in full lines, Fig. 2, and after the water is quiet, it will gradually settle of its own weight to the position shown in dotted lines, the reservoir then being full. It just fits the reservoir snugly, but permits water to work past it.

When the valve member is turned to the position shown in Fig. 4, all the water in the reservoir above the ball B′ is forced out through the pipe O to the bowl B.

Referring now to Figs. 6 to 9, inclusive, 1, designates the bowl, with connection to an outlet pipe 2, leading to a sewer. Formed as a part of the bowl 1, is a reservoir 3, provided in its upper part with a partition, 4, with a valve seat, 5, therethrough, as indicated. The lower end of said reservoir is connected with a water supply pipe, 6, for supplying water from the main water supply and with the usual pressure. Placed in said reservoir 3 is a moving valve member 7, comprising a hollow body with an opening at 8, whereby a quantity of water or other matter can be placed therein to change its weight and to regulate its movements in water. A conical valve member 9, closes the opening into said body, and also constitutes a valve adapted to close the opening through the partition 4, by seating on the under valve seat in said partition, as indicated in dotted lines, Fig. 7, when said valve body is raised to its upper position. The bottom of said body is adapted to seat on the opening from the bottom of said reservoir, as at 10, and thereby close said opening when said valve body is down in its lower position, as shown in full lines in Fig. 1. Hingedly mounted in the upper part of said reservoir 3, is a valve member, 11, having an operating arm, 12, adapted to be engaged by a curved arm, 13, secured to the underside of the seat, 14, as shown, and adapted to be projected through an opening, 15, formed in the wall portion of the bowl, between the bowl and the reservoir, as clearly indicated. Said seat, 14, is normally held in a slightly raised position, as indicated in dotted lines, by a spring (not shown), or it can be raised to a vertical position, at will, also indicated in dotted lines, Fig. 1. A removable cover, 16, is provided for the top of the reservoir, thus affording easy access to the interior thereof.

The reservoir 3 is always full of water, and the course of the water is up through the partition, 4, and through the opening 15 to the bowl. When the seat is in its normal position, which is slightly raised from the bowl, as indicated, the arm 13, is out of engagement with the operating arm 12, of the valve 11 and said valve is raised by a spring (not shown) to the position indicated in dotted lines. The valve member 7 is then carried to its upper position by the force of the inrushing water from the pipe 6, and the valve 9 closes the passageway through the partition 4, as indicated in dotted lines. When the seat is depressed, the arm 13, engages the operating arm 12, and closes the valve 11, which engages the point of the valve member 9, and starts it downwardly, and as the pressure is equalized by the closing of the valve member 11, said valve member 7 sinks to its lower position, shown in full lines, the water being permitted to escape slowly by the sides of said body 7. When the seat is released again, it normally raises sufficiently to release the valve 11, and the water from the reservoir passes upwardly through the partition 4 and through the opening 15, until the float valve member 7 again reaches its upper position and cuts off the further escape of the water.

I am aware that changes in the details of construction and arrangement can be made in my invention as shown without departing from the spirit thereof, and I do not therefore limit the invention except as I may be limited by the hereto appended claims.

I claim:

1. In a device of the character referred to, in combination, a bowl, a reservoir connected therewith, a water supply pipe to said reservoir, a valve mechanism interposed in the passageway from said reservoir to said bowl, means for operating said valve mechanism to open said passageway whereby to permit water from said reservoir to pass to said bowl, and means controlled by the inflowing water to said reservoir for closing said passageway and cutting off the further flow of water to said bowl.

2. In a device of the character referred to, in combination, a bowl, a reservoir connected therewith at substantially the same level, a water supply pipe connected to the bottom of said reservoir, a valve mechanism interposed in the passageway from said reservoir to said bowl, means for operating said valve mechanism to open said passageway whereby to permit water from said reservoir to pass to said bowl, and means controlled by the inflowing water to the bottom of said reservoir for closing said passageway and cutting off the further flow of water to said bowl.

3. In a device of the character referred to, in combination, a bowl, a reservoir embodied as a part thereof, between its top and bottom, a water supply pipe connected to the bottom of said reservoir, a moving valve body in said reservoir adapted to be raised by inflowing water, a valve seat interposed between said reservoir and its connection with said bowl and adapted to be closed by said moving valve body when in its raised position, a valve mechanism adapted to close said passageway, and means for operating said valve mechanism to close said passageway, whereby to permit said moving valve body to settle by gravity, substantially as described.

4. In combination with a closet bowl, a reservoir arranged at substantially the same level and communicating at its upper end with said bowl, a water supply pipe con-

nected to the bottom of said reservoir, a valve mechanism for controlling the flow of water from said reservoir to said bowl, and a movable valve body in said reservoir and operable by the water flowing thereinto to close the passageway from said reservoir to said bowl.

5. In combination with a closet bowl, a reservoir built as a part thereof and communicating therewith at its upper end, a water supply pipe connected to the lower end of said reservoir, a moving valve body in said reservoir adapted to close the inlet thereto when said valve body is down, a valve seat in the upper part of said reservoir and adapted to be closed by said valve body when raised, a valve mechanism for closing and opening the passageway from said reservoir to said bowl, and means for operating the same, substantially as described.

6. In combination with a bowl body, a reservoir formed as a part thereof and communicating therewith at its upper end, a partition in said reservoir dividing it into upper and lower chambers, with a valve seat opening through said partition, valve mechanism above said partition for closing said valve seat, means for operating the same, and a movable body in the lower chamber of said reservoir and adapted to seat in said valve seat opening through said partition when said movable body is raised, said body being adapted to be raised by inflowing water into said reservoir, substantially as described.

7. A closet bowl body having a bowl portion with seat and a reservoir portion made as a part thereof and communicating at its upper end with the bowl portion, means for connecting a water supply pipe to the lower end of said reservoir, a valve mechanism for controlling the upflow of water through said reservoir and to said bowl, and a movable body adapted to be raised by the inflowing water to close said water flow from the reservoir to the bowl.

8. A closet bowl body having a bowl portion with seat and a reservoir portion made as a part thereof and communicating therewith, means for connecting a water supply pipe to said reservoir, valve mechanism in said reservoir for controlling the flow of water up through said reservoir and to said bowl, means for operating said valve mechanism, and a movable body in said reservoir and adapted to be raised by the inflowing water to stop the flow of water through said reservoir to said bowl, substantially as described.

9. A device of the character referred to comprising a bowl body having a bowl portion and a reservoir portion at one side thereof and communicating with the bowl portion at its upper end, a partition in said reservoir dividing the same into upper and lower chambers, a valve seat through said partition, valve mechanism for controlling the passageway through said partition, means for operating said valve mechanism, means for connecting a water supply to said reservoir at its lower end, and a valve body adapted to be raised by inflowing water to said reservoir to close the passageway through said partition, substantially as described.

10. A device of the character referred to comprising a bowl body having a bowl portion and a reservoir portion at one side thereof and communicating with the bowl portion at its upper end, a partition in said reservoir with passageway therethrough, means for connecting a water supply to the bottom of said reservoir, a movable member in said reservoir adapted to be raised by the inflowing water thereto, a valve mechanism for controlling the flow of water through said partition to said bowl, and means for operating the same, substantially as described.

11. A device of the character referred to comprising a bowl body having a bowl portion and a reservoir portion at one side thereof and communicating therewith at its upper end, a partition in said reservoir with passageway therethrough, means for connecting a water supply to the bottom of said reservoir, a movable member in said reservoir adapted to be raised by the inflowing water thereto, a valve mechanism for controlling the flow of water up through said passageway in said partition, a seat for said bowl, and means connected with said seat for operating said valve mechanism, substantially as described.

12. A closet bowl formed with a bowl portion and with a separate reservoir portion at one side thereof and below the top thereof and communicating at its top with the top of said bowl portion, means for supplying water to said reservoir, a valve mechanism interposed to control the flow of water through said reservoir and to said bowl, and means for operating said valve mechanism.

13. A closet bowl, a reservoir in connection therewith below the top thereof, a source of water supply connected with said reservoir, a movable body in said reservoir adapted to be raised by inflowing water and operating to cut off passage of water from said reservoir to said bowl, and a manually operable valve mechanism interposed between said reservoir and said bowl.

Signed at Walla Walla, Walla Walla County, Washington, this 6th day of December, 1918.

FLETCHER C. ROOD.

In presence of:
A. A. KING,
ALLEN H. REYNOLDS.